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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GERHARD SCHIESSEL

Appeal 2011-006128
Application 10/589,079
Technology Center 1700

Before CATHERINE Q. TIMM, RAE LYNN P. GUEST, and
DEBORAH KATZ, *Administrative Patent Judges*.

KATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal, under 35 U.S.C. § 134, of the rejection of independent claim 26 and the claims that depend on it, claims 27-44, was brought by the named inventor. (App. Br. 2.) Claims 1-25 have been previously cancelled. (*Id.*) The real party-in-interest is said to be Audi AG. (*Id.*) We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

The Examiner maintained the following rejections:

- Claims 26-29 and 32-42 under 35 U.S.C. § 103(a) over Grange ‘376¹, Schmoeckel², Hodge³, and, optionally, Grange ‘474⁴ ;
- Claim 30 and 44 under 35 U.S.C. § 103(a) over Grange ‘376, Schmoeckel, Hodge , optionally, Grange ‘474, and Hassell⁵;
- Claim 31 under 35 U.S.C. § 103(a) over Grange ‘376, Schmoeckel, Hodge , optionally, Grange ‘474, and Brodt⁶;
- Claim 43 under 35 U.S.C. § 103(a) over Grange ‘376, Schmoeckel, Hodge , optionally, Grange ‘474, and Smith⁷; and
- Claim 38 under 35 U.S.C. § 112, first paragraph, for lack of written description support in the Specification.

With respect to the prior art rejections, Appellant does not argue for the separate patentability of any of the claims.⁸ Accordingly, we focus on

¹ U.S. Patent No. 3,337,376, issued August 22, 1967.

² “Metal Forming (Warm): Comparison with Hot and Cold Forming,” *ENCYCLOPEDIA OF MATERIALS: SCIENCE AND TECHNOLOGY*, vol. 6, pp. 5437-39 (2001).

³ U.S. Patent No. 3,057,050, issued October 9, 1962.

⁴ U.S. Patent No. 3,891,474, issued June 24, 1975.

⁵ “Induction Heat Treating of Steel,” *ASM Handbooks Online*, vol. 4 (2002).

⁶ U.S. Patent Application Publication 2002/0069506 A1, published June 13, 2002.

⁷ “Direct-Fired Furnace Equipment,” *ASM Handbooks Online*, vol. 4 (2002).

the rejection of claim 26 over Grange ‘376, Schmoeckel, Hodge, and, optionally, Grange ‘474, in our review of the rejections over the prior art, applying our reasoning to the rejections of the dependent claims. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellant claims a method forming a component from an aluminum coated steel blank by successive heating and cooling. The claimed method includes a storage step between two heating and cooling steps. (*See* Claim 26, App. Br. 5, Claims App’x.)

Appellant’s claim 26 recites:

A method of forming a component, comprising:
[1] heating an aluminum coated steel blank to an austenization temperature;
[2] rapidly cooling said blank;
[3] storing said heat treated blank at room temperature for an interval of time;
[4] heating said cooled, heat treated blank a second time to an austenization temperature greater than or equal to 850°C; and
[5] forming said blank while heated to produce said component.

(App. Br. 5, Claims App’x) (bracketed numbers inserted for reference).

⁸ In the Reply Brief, for the first time, Appellant notes that claims 27 and 34 “further distinguish[]” over the method of claim 26. (Reply Br. 4-5.) We do not review the rejections of these claims separately. *See* 37 C.F.R. § 41.37(c)(1)(vii) (“Any claim argued separately should be placed under a subheading identifying the claim by number. . . . A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim.”)

35 U.S.C. § 103(a)

The following facts are supported by at least a preponderance of the evidence. Numbers in brackets correspond to the numbers added to claim 26 to identify individual steps of the claimed method.

Grange ‘376 teaches treating steel to improve its mechanical properties by [1] heating it to a temperature of about 1700 to 2000° F to convert ferrite to austenite (austenization), [2] quenching the steel, optionally performing an intermediate step of cooling the steel to room temperature, and [4] rapidly reheating it to 1425° C to 1600° C. (*See* Grange ‘376, col. 2, ll. 6-35, and col. 2, l. 69, through col. 3, l. 6; Ans. 4-5.)

Schmoeckel teaches that steel can be used in [5] “warm-forming,” at temperatures between 600° C and 900° C, to construct tools. (Schmoeckel, p. 5437, left col. and p. 5438, left col.; Ans. 5.)

Hodge teaches that coatings of aluminum on ferrous metal are highly desirable, indicating that it was known in the art to use aluminum coated steel when forming a component. (*See* Hodge, col. 1, ll. 20-29; Ans. 5-6.)

The Examiner found that Grange ‘376 teaches cooling the steel to room temperature before reheating to 1425° to 1600° F. (Grange ‘376, col. 2, ll. 69-72.) Though Appellant argues that Grange ‘376 does not teach storing for “an interval of time” (App. Br. 3-4), Appellant’s claim does not provide a limit on how short such an “interval of time” can be. Nor does Appellant point to a definition in the specification that defines the claimed “interval of time.” Accordingly, any time period during which the steel in Grange ‘376 is at room temperature is within the scope of the “interval of time” that Appellant’s method provides for storing. (*See* Ans. 12.)

Appellant argues that because Grange ‘376 teaches “rapidly reheat[ing]” the steel after it is cooled to room temperature (*see* Grange ‘376, col. 2, ll. 71-72), it does not disclose storing the steel at room temperature. (App. Br. 3-4.) We are not persuaded that the rate at which steel is reheated impacts the time period during which the steel is at room temperature. Accordingly, we are not persuaded by Appellant’s argument.

Appellant also argues that Grange ‘376 teaches away from storing the blank because it teaches, in a preferred embodiment, that:

the sample was held in the oil barely long enough to reach the temperature of the bath before proceeding with the next step in order to minimize microcracks. It has been found that the formation of microcracks is time dependent and immediate reheating after quenching in warm oil will minimize microcracking.

(Grange ‘376, col. 3, ll. 65-71; App. Br. 4.) To teach away, a prior art reference must have discouraged those in the art from what is claimed. *In re Gurley*, 27 F3d 551, 553 (Fed. Cir. 1994). Moreover, disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments. *In re Susi*, 440 F.2d 442, 446 n.3 (CCPA 1971). We are not persuaded that this passage would have discouraged those in the art from maintaining the steel at room temperature for an “interval of time” as claimed.

In addition to Grange ‘376, Grange ‘474 teaches heating treating steel blanks. (Ans. 6-7.) Grange ‘474 teaches carburizing steel to increase the carbon content of the outer case by heating to a temperature within the range of 1700° to 2000° F. (Grange ‘474, col. 2, ll. 38-45.) Grange ‘474 teaches that following carburization, the steel is quenched in oil to room temperature

and can be stored at room temperature, followed by reheating to below 950° F (510° C) for transformation to bainite, and ultimately reheating for reaustenization. (Grange ‘474, col. 2, ll. 46-51, col. 3, ll. 12-19, and Figure 1.)

Appellant argues that Grange ‘474 teaches away from a method including reheating to a temperature greater than or equal to 850° C, because Grange ‘474 teaches a first reheating step only to a temperature below 510° C (App. Br. 4.) The Examiner is relying on Grange ‘376 for all of the process steps of claim 1 and relies on Grange ‘474 only as evidence that it would have been obvious to the skilled artisan to store the steel at room temperature. Appellant attacks the references separately and fails to specifically address the Examiner’s articulated rationale. Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Appellant also argues that the teachings in Grange ‘376 and Grange ‘474 cannot be applied to a method using aluminum coated steel. (Reply Br. 3-4.) Although Appellant cites a discussion in Grange ‘474 about the difficulties associated with treating case carburized steel (*id.*), Appellant has not directed us to sufficient evidence that aluminum coated steel, as taught by Hodge, would have significantly different properties such that those of skill in the art would not have applied the teachings of the Grange references to aluminum coated steel. “Argument of counsel cannot take the place of evidence lacking in the record.” *Meitzner v. Mindick*, 549 F.2d 775, 782 (CCPA 1977). Furthermore, “the reply brief [is not] an opportunity to make arguments that could have been made in the principal brief on appeal to

rebut the Examiner's rejections, but were not." *Ex parte Borden*, 93 USPQ2d 1473, 1474 (BPAI 2010) (Informative).

The Examiner rejected dependent claims 30, 44, 31, and 43 under 35 U.S.C. § 103(a) over Grange '376, Schmoeckel, Hodge, and Grange '474, as well as over Hassell, Brodt, or Smith for teachings of the elements in addition to those recited in claim 26. (*See* Ans. 7-11.) Appellant does not provide any arguments specific to these rejections. Accordingly, we are not persuaded that these rejections are improper.

35 U.S.C. § 112, first paragraph

Appellant's claim 38 recites:

The method according to claim 35, wherein the second manufacturing process is continuous.

(App. Br. 6, Claims App'x.)

Appellant's claim 35 recites:

The method according to claim 26, wherein the step of heating the aluminum coated steel blank takes place in a first manufacturing process, and wherein the step of heating the cooled, heated treated blank takes place in a second manufacturing process.

(*Id.*)

The Examiner rejected claim 38 under 35 U.S.C. § 112, first paragraph, for failure to provide a written description of a second manufacturing process that is continuous. (Ans. 4.)

Appellant argues that page three of the Specification explains that the invention can involve decoupling the sequences of a continuous process and

that, thus, the second process would be continuous as was the coupled process. (App. Br. 3.)

While the Examiner pointed to a claim element not expressly provided for in the Specification, “[t]he test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language.” *In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983). Page three of the Specification supports decoupling sequences of conventional continuous heating and cooling processes, as Appellant argues. The Examiner has not provided sufficient reason to explain why those of skill in the art would not have considered the decoupled first and second heating steps (i.e., first and second process) to be anything other than the conventional continuous heating processes, just decoupled. Accordingly, we reverse the Examiner’s decision to rejection claim 38 under 35 U.S.C. § 112, first paragraph.

ORDER

Upon consideration of the record and for the reasons given,
the rejection of claims 26-29 and 32-43 under 35 U.S.C. § 103(a) over Grange ‘376, Schmoeckel, Hodge, and, optionally, Grange ‘474 is sustained;
the rejection of claims 30 and 44 under 35 U.S.C. § 103(a) over Grange ‘376, Schmoeckel, Hodge, optionally, Grange ‘474, and Hassell is sustained;
the rejection of claim 31 under 35 U.S.C. § 103(a) over Grange ‘376, Schmoeckel, Hodge , optionally, Grange ‘474, and Brodt is sustained;

the rejection of claim 43 under 35 U.S.C. § 103(a) over Grange '376, Schmoeckel, Hodge , optionally, Grange '474, and Smith is sustained; and

the rejection of claim 38 under 35 U.S.C. § 112, first paragraph, for lack of written description support in the Specification is not sustained.

Therefore, we affirm the decision of the Examiner.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136.

AFFIRMED

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